Space Weather Forecast

Issued on Monday, 14 February 2022 at 00:37 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

Space Weather Forecast Headline: Chance of Minor R1 Radio Blackouts.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity was Low with several Common-class X-ray flares observed. There are currently three sunspots on the Earth-facing side of the sun. The past 48 hours have seen numerous apparently minor Coronal Mass Ejections (CMEs) on available satellite imagery and none are likely to be Earth-directed.

Solar Wind / Geomagnetic Activity: Solar winds have fallen from elevated to slightly elevated. The magnetic field was Weak. The net result of the solar wind measures was Quiet to Unsettled geomagnetic activity with one Active interval at the very beginning of the period.

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is forecast to be mostly Low for much of the next four day period, with a chance on days 1 and 2 (14th and 15th) of further Moderate flares. Sunspot regions are expected to be in a state of flux in the period, with departures and arrivals, and confidence is therefore lower than usual.

Solar Wind / Geomagnetic Activity: No CMEs feature in this forecast period. Geomagnetic activity is likely to be Quiet to unsettled, with a slight chance of Active intervals on day 1 (14th).

Energetic Particles / Solar Radiation: High energy proton flux is most likely to remain at background levels, but with a daily Very Slight Chance of S1.

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	2	1	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	30	30	10	5
Very Active	R3 to R5 X	No	2	2	2	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	5	5	2	1
Very Active	≥ S3 *	No	1	1	1	1
* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)						

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